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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,402	03/31/2004	Naomi O. Limcangco	110578-135677	9598

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SCHWABE, WILLIAMSON & WYATT
PACWEST CENTER, SUITE 1900
1211 S.W. FIFTH AVE.
PORTLAND, OR 97204

EXAMINER

ROJAS, BERNARD

ART UNIT PAPER NUMBER

2832

DATE MAILED: 11/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,402

Applicant(s)

LIMCANGCO, NAOMI O.

Examiner

Bernard Rojas

Art Unit

2832

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10, 18-29 and 32 is/are pending in the application.
- 4a) Of the above claim(s) 25-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 18-24, 31 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to independent claim 1 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4-6, 8-10 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasch et al. [US 2005/0236260] in view of Gotoh et al. [US 4,538,039].

Claims 1, Pasch et al. discloses an electromechanical switch [100] comprising; a signal contact [106, 108]; an actuation electrode [104]; a beam [118] to electrically couple to the signal contact through a conductive path between the beam and the signal contact that occurs at a time when an actuating voltage is applied to the actuation electrode and the beam engages the signal contact; and a coating [110] to protect the contacts.

Pasch et al. fails to teach that the coating to at least facilitate the existence of an arc reduction environment.

Gotoh et al. teaches using coating [19] on a stationary [17] and a movable contact [18] member to at least facilitate the existence of an arc reduction environment [col. 3 lines 8-13].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the protective coating of Gotoh et al. in the switch of Pasch in order to prevent such ends from being damaged by an arc generated when the closing switch part 12 is engaged to make the circuit [col. 3 lines 8-13].

Claim 4, Pasch et al., as modified, discloses that the conductive coating is disposed between the beam and at least one of a group consisting of the signal contact and the actuation electrode [figure 1].

Claim 5, Pasch et al., as modified, discloses that the conductive coating is applied to at least one of a group consisting of the actuation electrode, the signal contact, a first portion of the beam corresponding to the actuation electrode, and a second portion of the beam corresponding to the signal contact [figure 1].

Claim 6, Pasch et al., as modified, discloses that the signal contact, the actuation electrode, and the beam are comprised of respective materials having respective coefficients of secondary electron emissions, and the coating is comprised of a material having a coefficient of secondary electron emission approximately lower than the coefficients of secondary electron emissions of the material over which it is applied [Gotoh et al. col. 3 lines 8-13].

Claim 8, Pasch et al. discloses a protuberance [120] disposed on a portion of the beam corresponding to the signal contact [figures 1 and 2]

Claim 9, Pasch et al. discloses that at least a portion of the coating is applied to the protuberance [figures 1 and 2].

Claim 10, Pasch et al. discloses that at least a portion of the coating comprises the protuberance [figures 1 and 2].

Claim 31, Pasch et al. discloses that the conductive path between the beam and the signal contact occurs at a time that the beam engages the signal contact [figure 2].

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasch et al. [US 2005/0236260] in view of Gotoh et al. [US 4,538,039]., as applied to claim 1 above, in further view of Tourino et al. [US 6,809,412].

Claim 2, Pasch et al. in view of Gotoh et al. disclose the claimed invention with the exception of enclosing the switch in a housing.

Tourino et al. teaches surrounding a mems device [20] in a protective enclosure created by a cap [28] coupled [by 30] to a substrate [10] to substantially enclose the signal contact, the actuation electrode and the beam [figure 6].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to enclose the switch of Ma in a protective housing as taught by Tourino et al. in order to create a protective covering [abs] to protect against foreign objects such as dirt and dust from disrupting the operation of the switch.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pasch et al. [US 2005/0236260] in view of Gotoh et al. [US 4,538,039], as applied in claim 1 above, and in further view of Knolle et al. [US 5,107,323].

Claim 3, Pasch et al. in view of Gotoh et al. discloses the claimed invention with the exception of coating being a hydride.

Knolle et al. teaches that a hydride [17, col. 3 lines 13-25] can be used in order to prevent arcing between two contacts [14, 15, abs]

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a hydride coating to prevent arcing damage to the contacts of Pasch et al., since it was known in the art as a an arc reducing material as taught by Knolle et al.

Claim 7 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Pasch et al. [US 2005/0236260] in view of Gotoh et al. [US 4,538,039], as applied in claim 1 above, and in further view of Meister [Derwent 1981-29131D].

Claim 7, Pasch et al. in view of Gotoh et al. disclose the claimed invention except for the use of titanium for the coating.

Meister teaches that titanium can be used to at least facilitate the existence of an arc reduction environment [abs].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a titanium coating to at least facilitate the existence of an arc reduction environment in order to prevent contact damage associated with arcing [abs].

Claims 18 and 20, 21, 22, 24 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. [US 2004/0063325] in view of Pasch et al. [US 2005/0236260], and in further view of Gotoh et al. [US 4,538,039].

Claim 18, Urano et al. discloses a system comprising a bus [6]; a memory [3] coupled to the bus; and a circuit [2] coupled to the bus, the circuit including a Mems unit [20].

Urano et al. fails to teach the claimed Mems structure.

Pasch et al. discloses an electromechanical switch [100] comprising; a signal contact [106, 108]; an actuation electrode [104]; a beam [118] to electrically couple to the signal contact through a conductive path between the beam and the signal contact that occurs at a time when an actuating voltage is applied to the actuation electrode and the beam engages the signal contact; and a coating [110] to protect the contacts.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the Mems structure of Pasch et al. in the system of Urano et al. in order to provide a Mem switch that facilitates arcing so as to not short out the system.

Pasch et al. fails to teach that the coating to at least facilitate the existence of an arc reduction environment.

Gotoh et al. teaches using coating [19] on a stationary [17] and a movable contact [18] member to at least facilitate the existence of an arc reduction environment [col. 3 lines 8-13].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the protective coating of Gotoh et al. in the switch of Pasch in order to prevent such ends from being damaged by an arc generated when the closing switch part 12 is engaged to make the circuit [col. 3 lines 8-13].

Claim 20, Pasch et al., as modified, discloses that the conductive coating is applied to at least one of a group consisting of the actuation electrode, the signal contact, a first portion of the beam corresponding to the actuation electrode, and a second portion of the beam corresponding to the signal contact [figure 1].

Claim 21, Pasch et al., as modified, discloses that the signal contact, the actuation electrode, and the beam are comprised of respective materials having respective coefficients of secondary electron emissions, and the coating is comprised of a material having a coefficient of secondary electron emission approximately lower than the coefficients of secondary electron emissions of the material over which it is applied [Gotoh et al. col. 3 lines 8-13].

Claim 23, Urano et al. discloses the system of claim 18, wherein the circuit further includes a processor [4 or 26].

Claim 24, Urano et al. discloses the Mems device disclosed can be used in communications applications [i.e. network router or mobile phone, paragraph 0001].

Claim 31, Pasch et al. discloses that the conductive path between the beam and the signal contact occurs at a time that the beam engages the signal contact [figure 2].

Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. [US 2004/0063325] in view of Pasch et al. [US 2005/0236260] and in view of Gotoh et al. [US 4,538,039], as applied in claim 18 above, and in further view of Knolle et al. [US 5,107,323].

Claim 19, Pasch et al. in view of Gotoh et al. discloses the claimed invention with the exception of coating being a hydride.

Knolle et al. teaches that a hydride [17, col. 3 lines 13-25] can be used in order to prevent arcing between two contacts [14, 15, abs]

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a hydride coating to prevent arcing damage to the contacts of Pasch et al., since it was known in the art as a an arc reducing material as taught by Knolle et al.

Claim 22 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Urano et al. [US 2004/0063325] in view of Pasch et al. [US 2005/0236260] and in view of Gotoh et al. [US 4,538,039], as applied in claim 18 above, and in further view of Meister [Derwent 1981-29131D].

Claim 22, Pasch et al. in view of Gotoh et al. disclose the claimed invention except for the use of titanium for the coating.

Meister teaches that titanium can be used to at least facilitate the existence of an arc reduction environment [abs].

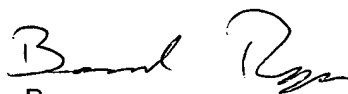
It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a titanium coating to at least facilitate the existence of an arc reduction environment in order to prevent contact damage associated with arcing [abs].

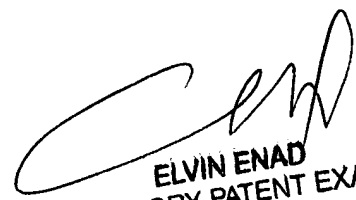
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bernard Rojas whose telephone number is (571) 272-1998. The examiner can normally be reached on M-F 8-4:00), every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin G. Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Br


ELVIN ENAD
SUPERVISORY PATENT EXAMINER
10/27/06